NAME: _____KEY_____ date:_____

Student Directed Inquiry- Response Sheet

1. Open MyNASAData.
http://mynasadata.larc.nasa.gov/
2. Click on +Data Access
3. Click on +Live Access Server (Advanced Edition)
4. Under Select Data Set, click on Oceans
5. Under Dataset Variable(s), select Monthly Chlorophyll-a Concentration (SeaWiFS)
6. Click on the red Next button
7. Check that the following options are selected: View: Longitude-Latitude map (xy)
   Output: Interactive color plot
   Region: Full Region
   Time: September 1997
8. Click the red Next. A map should appear.
9. Click on "Open plot in a new window"
10. Follow steps 1- again, but change the time to September 2007
11. A second map should appear.

You are a member of an International Team of Marine Biologists. You are tasked with predicting and monitoring possible harmful algae blooms. Using the data maps and guiding questions, complete this challenge.

Take a few moments to observe both graphic sources.

List 3 observations of change you can make based on these two maps. Be sure to use complete sentences and scientific language.

Possible ideas are:

- *Levels of Chlorophyll A have become higher at the south eastern part of South America*
- *Levels of Chlorophyll A have become lower on the North Eastern part of Asia*
- *Levels of Chlorophyll A have risen to the north eastern part of Africa*
- *Levels of Chlorophyll A have become lower near the West Coast of North America*
- *Data that was incomplete in 1997 near the South of Greenland is complete in 2007*
- *The area West of South America in the Pacific ocean has a larger area of zero Chlorophyll A detected*

Now the time has come to choose sites for monitoring. The problem is, your department has had major budget cuts. You are only allowed to choose one site to monitor and investigate further for potential harmful algae blooms. Using your knowledge and data, choose a site and justify your choice. You need to describe your site, and reasons for choosing it over all other choices.
Keep in mind, you must accurately describe your site using geographical, cardinal, and longitudinal and latitudinal directions. You do not want your team to show up in the wrong area.

Students will most likely choose the south eastern side of South America. It is the most obvious site of increased Chlorophyll production. Expect that they describe the area with accuracy using specific directional language. They should also explain why they chose this site over others. Expect they say it has a large increase from 1997 to 2997 and that they need to investigate further. Be careful if they portray an opinion that this area definitely has dangerous levels and/or harmful algae blooms. This is not the case. The graphs merely indicate increase in production, not necessarily harmful algae bloom.

Extensions:

Zoom in on your chosen site.

Look closely now, at the zoomed area. What areas have remained similar to 1997?

Answers may vary if students did not choose the south of South America. If they did, expect an answer similar to the North Eastern Side of South America

Using longitude and latitude, what area has changed most? How do you know?

Answers may vary if students did not choose the south of South America. If they did, expect an answer similar to 45 degrees South, 60 degrees West.